

Claims

1. A process for the separation of a stream containing propane and/or butanes from a hydrocarbon feedstock contaminated with alkyl mercaptans by fractional distillation at such a pressure that the separated overheads stream containing said propane and/or butanes is at a temperature in the range 50 to 100°C, comprising introducing sufficient oxygen into said hydrocarbon feedstock to oxidise the mercaptans therein and subjecting the resultant mixture to the fractional distillation in a column including at least one bed of a catalyst capable, under the prevailing conditions, of oxidising mercaptans to higher boiling point sulphur compounds, and separating the higher boiling point sulphur compounds as part of the liquid phase from the distillation.
2. A process according to claim 1 wherein the catalyst comprises a granular material containing a transition metal on a support.
3. A process according to claim 1 or claim 2 wherein the transition metal comprises copper, manganese or cobalt or a mixture of two or more of these.
4. A process according to any one of claims 1 to 3 wherein the catalyst is a granular material comprising copper sulphate, sodium chloride and water on a clay support.
5. A process according to any one of claims 1 to 4 wherein the amount of mercaptans present in the hydrocarbon feedstock is less than 2000 ppm by volume.
6. A process according to any one of claims 1 to 5 wherein the distillation is effected at a pressure in the range 5 to 25 bar abs.
7. A process according to any one of claims 1 to 6 wherein the oxygen is supplied by dissolving air in the hydrocarbon feedstock.
8. A process according to any one of claims 1 to 7 wherein water is incorporated into the hydrocarbon feed in such an amount that it is miscible with the hydrocarbon stream under the prevailing conditions.